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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/885,012	06/21/2001	Kazunori Iwamoto	684.3200	4403

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EXAMINER

ESPLIN, DAVID.B

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 04/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/885,012

Applicant(s)

IWAMOTO ET AL.

Examiner

D. Ben Esplin

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-35 is/are allowed.
- 6) ☒ Claim(s) 36-47, 49 and 50 is/are rejected.
- 7) ☒ Claim(s) 48 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 36, 40, 44, 49, and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,969,441 to Loopstra et al.

FIGS. 4 and 5 of Loopstra show a moving mechanism including a stage (first substrate holder 11) movable in two dimensions, and an actuator made up of a plurality of moveable elements (first parts 125 and 127) disposed on opposite sides of the stage, and stators (second parts 133 and 135) for driving the stage in two directions (between the positions shown in FIGS. 4 and 5). Further, the moving mechanism of Loopstra includes a balancing unit 149 that supports the above structures and is movable two-dimensionally in response to reaction forces created as the stage is driven (col. 15 line 54 – col. 16 line 17). The moving mechanism of Loopstra also includes a plurality of stator actuators (springs 91, 93, and 95) for driving the balancing unit 149, and thereby also driving the stators.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 37-39, 41-43, and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loopstra as applied to claims 36, 40, 44, 49, and 50 above, and further in view of U.S. Patent No. 6,271,606 to Hazelton.

While Loopstra discloses that the actuators should be Lorentz force type linear motors (col. 12 lines 11-22), a specific description of these actuators are not given since they are “usual and known” (col. 12 line 12). However, Hazelton teaches in greater depth the specific composition of Lorentz force motors including an actuator (linear motor 58), shown in some detail in FIG. 4d, which is made up of a moveable element that is a permanent magnet (magnet 42) disposed on the side of the moveable portion, and stators including coils of electrical wires (coils of electrical wires 46). Therefore, it would have been obvious to include permanent magnets and coils of electrical wires, as taught by Hazelton, in the actuator of the moving mechanism of Loopstra, as a well known specific embodiment of the Lorentz motors called for by the disclosure of Loopstra.

#### ***Allowable Subject Matter***

Claims 1-35 are allowed.

Claim 48 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

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Referring to claims 1-27, a moving mechanism including a stage that is movable in two dimensions and a plurality of actuators as defined by these claims with stators that are independently movable in two dimensions, along with the rest of the limitations of these claims, is not suggested by the prior art.

In reference to claims 28-35, an X-Y stage including first stators (X direction), separable from each other, and second stators (Y direction), separable from each other, wherein each stator is movable on a two dimensional plane, along with the rest of the structure and function of these claims, is not shown in the prior art.

Regarding to claim 48, a moving mechanism including actuators movable in two dimensions and including a position measuring device for measuring the position of the actuators after displacement, along with the specific structure of this claim, is not found or taught by the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. Ben Esplin whose telephone number is (703) 305-4022. The examiner can normally be reached on Mon.-Fri. (8am-4:30 pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell E. Adams can be reached on (703) 308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



DBE

April 22, 2003



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SUPERVISORY PATENT EXAMINER  
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